

quadrilaterally arranged linkage is to cause it to swing as if it were pivoted about a center forward of the actual connection between it and the tractor. If the centre lines of the links are produced until they intersect, the point 3 where they intersect is the virtual centre about which swinging takes place. The plough and tractor function as if the plough were attached at the center 3. As a result, should the tractor be turned to the left or right the plough is immediately turned in the same direction.

By attaching the forward ends of the links to the intermediate balls 4<sup>b</sup>, 5<sup>b</sup> the virtual centre can be brought nearer the back axle of the tractor but still forward of the actual connection.

If the tractor and plough are being used for ploughing along a hillside, the plough will not "drift" down the hill with the rear end of the tractor, but will follow the virtual swinging centre which is controlled by the steering and thus better results will be obtained. In the case of row crop cultivation where the tractor operator may have allowed the tractor to get too close to one side of the row, he would require to steer away from the row in order to get into the correct position again. If he were using an ordinary wheeled implement hitched with a single pin behind the rear axle, steering away from the row would have the momentary effect of throwing the implement in the wrong direction and into the crop, because its actual connection with the tractor would be behind the rear axle of the tractor. When using the hitch according to this invention, the implement would immediately follow the steering and come away from the crop.

Referring to the modification shown in Figs. 3 and 4, the implement frame 7 is provided with two upstanding triangular frames 7<sup>a</sup>, 7<sup>b</sup> at whose vertices a cross shaft 8, corresponding to that referred to in Figs. 1 and 2, is journaled, this shaft having cranked ends linked to the rear of the tractor as before and a lever 9 on it.

A lower link 6 is universally jointed to the implement frame 7 and to the rear end of the tractor.

This form of upper and lower linkage permits the implement to have vertical and lateral freedom while giving a virtual swinging centre forward of the actual connection and an effective line of draft from a point other than the said actual connection, the last feature being as in my prior Patent No. 1,464,130.

By turning the cross shaft 8, the angle of the implement relatively to the tractor is altered. In the case of a plough, the adjustment provides for regulating the width of the front furrow in the case of a two-bottom plough, or the width of the furrow in the case of a single-bottom plough. In the case of a row crop cultivator, the same adjustment en-

ables the operator to shift the position of his implement laterally, relative to the tractor, so that it will follow the desired path behind the tractor. Instead of having the crank shaft 8 on the implement, I may have it on the tractor, but preferably I would carry it on the implement.

As an alternative to using a cranked shaft as hereinbefore described, I may make provision for shortening or lengthening either or both of the links 4 and 5, and in this way, change the angularity of the implement relatively to the tractor, for the adjustments mentioned.

Suitable stoppers could be provided to prevent the implement from swinging into the tractor wheels.

I claim:—

1. A hitch connection for coupling an agricultural implement to a tractor comprising two spaced universal mountings on the tractor, two links each secured at one end to one of said mountings, a cross shaft turnably secured to the implement, a crank at each end thereof, the cranks being set at different angles to the shaft and the second ends of the links being universally secured to the cranks, and means for rotating said shaft to vary the relative positions of the links.

2. A hitch connection for coupling an agricultural implement to a tractor comprising quadrilaterally arranged linkage having one side attached to the implement and the opposite side on the tractor having universally jointed vertices, and, in combination therewith, a lower linkage connection.

3. A hitch connection for coupling an agricultural implement to a tractor comprising two spaced universal mountings on the tractor, two links each secured at one end to one of said mountings, two spaced universal mountings supported by the implement and to which the second ends of the links are secured, and a lower linkage connection.

4. A hitch connection for coupling an agricultural implement to a tractor comprising two spaced universal mountings on the tractor, two links each secured at one end to one of said mountings, two spaced universal mountings supported by the implement and to which the second ends of the links are secured, mechanism for adjusting the relationship of links to one another, and a lower linkage connection between the tractor and the implement.

5. Means constituting a hitch connection for coupling an agricultural implement to a tractor comprising two spaced universal mountings on the tractor, two links each secured at one end to one of said mountings, a cross shaft turnably secured to the implement, a crank at each end thereof, the cranks being set at different angles to the shaft and the second ends of the links being universally secured to the cranks, means for rotating said